



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/750,986 A

Source: OIPE

Date Processed by STIC: 5-23-01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/750, 986 A

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics The number/text at the end of each line "wrapped" down to the next line. This may occur if your file
 Wrapped Aminos was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will
 prevent "wrapping."

- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.

- 3 Misaligned Amino The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers;
 Numbering use space characters, instead.

- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please
 ensure your subsequent submission is saved in ASCII text.

- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules,
 each n or Xaa can only represent a single residue. Please present the maximum number of each
 residue having variable length and indicate in the <220>-<223> section that some may be missing.

- 6 PatentIn 2.0 A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid
 "bug" sequences(s) . Normally, PatentIn would automatically generate this section from the
 previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to
 the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for
 Artificial or Unknown sequences.

- 7 Skipped Sequences Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (OLD RULES) (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

- 8 Skipped Sequences Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
 (NEW RULES) <210> sequence id number
 <400> sequence id number
 000

- 9 Use of n's or Xaa's Use of n's and/or Xaa's have been detected in the Sequence Listing.
 (NEW RULES) Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

- 10 ✓ Invalid <213> Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or
 Response scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or
 is Artificial Sequence

- 11 Use of <220> Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
 Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or
 "Unknown." Please explain source of genetic material in <220> to <223> section.
 (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

- 12 PatentIn 2.0 Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file,
 "bug" resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence
 listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

OIPE

RAW SEQUENCE LISTING

DATE: 05/23/2001

PATENT APPLICATION: US/09/750,986A

TIME: 12:37:52

Input Set : A:\B-99982.txt

Output Set: C:\CRF3\05232001\I750986A.raw

ENTERED*see p. 5***Does Not Comply
Corrected Diskette Needed***p. 6.*

```

3 <110> APPLICANT: Steinbuchel, Alexander
4      Priefert, Horst
5      Rabenhorst, Jurgen
7 <120> TITLE OF INVENTION: SYNTHETIC ENZYMES FOR THE PRODUCTION OF CONIFERYL
8      ALCOHOL, CONIFERYLALDEHYDE, FERULIC ACID, VANILLIN AND
9      VANILLIC ACID AND THEIR USE
11 <130> FILE REFERENCE: Bayer-9998.2-HCL
13 <140> CURRENT APPLICATION NUMBER: 09/750,986A
14 <141> CURRENT FILING DATE: 2000-12-28
16 <150> PRIOR APPLICATION NUMBER: 196 49 655.1 GERMANY
17 <151> PRIOR FILING DATE: 1996-11-29
19 <160> NUMBER OF SEQ ID NOS: 45
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 32679
25 <212> TYPE: DNA
26 <213> ORGANISM: Pseudomonas sp.
28 <220> FEATURE:
29 <221> NAME/KEY: CDS
30 <222> LOCATION: (3146)..(3997)
31 <223> OTHER INFORMATION: gene = "ORF1"
33 <400> SEQUENCE: 1
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36 gacgtgcata ttatcgcgat cggcggaacg agctttaaac gctacctgga gctcggaaag 120
38 ctctgaaca tcagagttgc cgcaattcga gataacgacg gtgactatca gcagaactgt 180
40 gtagegaact acgaaggcta cctgtacgag tcggccaaga ttttcgcgcg cccagatcct 240
42 gaccgaagca ccttcgaaat agggctgtac cgtgacaacc agaaagcctg tgacgatctc 300
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64 cacgggcgaa gatcggcgat acgttcgctg gtgatttcca ccagcacacc ttcgatacca 960
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70 aaacggtctg tgacttcata agcgcgaaagc tgaaaattgg cgatggacgc tcacgaggag 1140
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82 gggccttcaa acagggaaat taggcgataa agctgaaaaa ggattttcaa gtaaaqacca 1500

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86 cggccaaaag cggactgatg cggttactaa gcctgcctct tattgaagct tgggtgggctt 1620
88 taagaatgtg gtgcgatcca gcctgatgat gttccgcttt atgcacgcag ccaagcctat 1680
90 cgaccgccgt ctgcacgttg taaccgacta cgccatgtgcc ttgcccgtg gtggccatgg 1740
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138 catcctacga aacaagtga gactg atg atc gcc atc aca ggt gcc tcc gga 3172
139 Met Ile Ala Ile Thr Gly Ala Ser Gly
140 1 5
142 caa ctt ggt cgg ttg act ata gag gcg cta ctg aag cgc ctg cca gca 3220
143 Gln Leu Gly Arg Leu Thr Ile Glu Ala Leu Leu Lys Arg Leu Pro Ala
144 10 15 20 25
146 tcc gaa att att gcc ctc gtc cgg gat ccg aat aag gcc gga gac ctt 3268
147 Ser Glu Ile Ile Ala Leu Val Arg Asp Pro Asn Lys Ala Gly Asp Leu
148 30 35 40
150 acc gca cgt ggc atc gtg gtg cgc cag gcc gat tac aac cgg ccg gaa 3316
151 Thr Ala Arg Gly Ile Val Val Arg Gln Ala Asp Tyr Asn Arg Pro Glu
152 45 50 55
154 aca ctc cac cgg gcc ctg att ggg gtc aac cgg ttg ctg ttg att tcc 3364
155 Thr Leu His Arg Ala Leu Ile Gly Val Asn Arg Leu Leu Leu Ile Ser
156 60 65 70
158 tcc agt gag gtg ggt caa cga act gcg caa cac cgg gca gtg atc gac 3412
159 Ser Ser Glu Val Gly Gln Arg Thr Ala Gln His Arg Ala Val Ile Asp
160 75 80 85
162 gct gcg aag caa gaa ggt atc gag ttg ctg gct tat acg agt ctg ctt 3460
163 Ala Ala Lys Gln Glu Gly Ile Glu Leu Leu Ala Tyr Thr Ser Leu Leu
164 90 95 100 105
166 cat gcc gat aaa tcg gcg ctg ggc cta gcg act gaa cac cga gac acg 3508

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173 Glu Gln Ala Leu Thr Glu Ser Gly Ile Pro His Val Leu Leu Arg Asn
174          125          130          135
176 ggt tgg tat cac gag aac tac acg gcg ggc atc cca gtc gcg ctg gtt 3604
177 Gly Trp Tyr His Glu Asn Tyr Thr Ala Gly Ile Pro Val Ala Leu Val
178          140          145          150
180 cat ggc gtg ttg ctg ggc tgt gcc cag gat ggc ttg att gct tct gct 3652
181 His Gly Val Leu Leu Gly Cys Ala Gln Asp Gly Leu Ile Ala Ser Ala
182          155          160          165
184 gca cgt gct gac tac gcc gaa gca gcg gct gtg gtg ctc acc ggt gag 3700
185 Ala Arg Ala Asp Tyr Ala Glu Ala Ala Ala Val Val Leu Thr Gly Glu
186 170          175          180          185
188 aat cag gca ggt cgc gtc tac gag ctg gcc ggt gaa ccg gca tat acg 3748
189 Asn Gln Ala Gly Arg Val Tyr Glu Leu Ala Gly Glu Pro Ala Tyr Thr
190          190          195          200
192 ctc acc gaa ctg gca gct gag gtg gcg ccg caa gca gga aag acc gtc 3796
193 Leu Thr Glu Leu Ala Ala Glu Val Ala Pro Gln Ala Gly Lys Thr Val
194          205          210          215
196 gtg tat tcg aac cta tcc gag agc gat tac cga tct gcg ttg atc agt 3844
197 Val Tyr Ser Asn Leu Ser Glu Ser Asp Tyr Arg Ser Ala Leu Ile Ser
198          220          225          230
200 gcg ggc ctt ccc gat ggt ttt gcg gca ttg ctc gca gac tct gat gca 3892
201 Ala Gly Leu Pro Asp Gly Phe Ala Ala Leu Leu Ala Asp Ser Asp Ala
202          235          240          245
204 ggc gca gcc aag ggg tat ttg ttt gat tcc agt gga gac agt cgc aag 3940
205 Gly Ala Ala Lys Gly Tyr Leu Phe Asp Ser Ser Gly Asp Ser Arg Lys
206 250          255          260          265
208 ctg atc ggt cgc cca acc act ccg atg tcg gaa gcc atc gcg gca gca 3988
209 Leu Ile Gly Arg Pro Thr Thr Pro Met Ser Glu Ala Ile Ala Ala Ala
210          270          275          280
212 att ggc cgc taaaactgca ttttcgcgac ttgagtgaca cctgggttag 4037
213 Ile Gly Arg
215 ataaccagg tgtctgcac cgctttgggt tagtggtggg caatagcggg gtctggtcac 4097
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DATE: 05/23/2001

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TIME: 12:37:52

Input Set : A:\B-99982.txt

Output Set: C:\CRF3\05232001\I750986A.raw

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247 atattggatc ccataaggtc aagttcatag ctgatttttg ctttagatgt ccattgtgga 5057
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347 ggcgccact gacttcgtca atccgaacga tcacgcgaag ccgatccagg atgtcatcgt 8057
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351 gcgcgcagca ctcgagtgt gccacaaggg ctggggcgaa tccgtgatca tcggcggtggc 8177
353 gccggcgggg gccgaaatca acaccgttc gttccacctg gtgaccggtc gcgtctggcg 8237
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357 acagcagggc gagatccgc tggacacct catcactcac accatgggccc tggacgacat 8357
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431 acaagaaggc cattaagatg atgaatgtta attataaggc tgcggggcg agcctactcc 10577
433 tcgccttcat ctctcaggga gcttgggcag agagccccgc agcctctggc aataccctg 10637
435 acatttatcg aaagacctgc acctactgcc atgagcctac tgtcaacaat ggccgggtca 10697
437 ttgcccgaag cctcgggccg actctgcgag ggcgccagat ccctccacag tacacggagt 10757
439 acatggtgcg tcatggacgc ggggcaatgc ctgcattctc tgaagcagaa gtgcctccgg 10817

```

<210> 3
<211> 1065
<212> DNA

<213> not required under old rule

<213> organism is a
mandatory response under
the new rules, which is the
format you are using.
See #10

<220>
<221> CDS
<222> (1)..(1062)
<223> product = "Vanillinsaeure-O-Demethylase" / gene =
"vanA"

<400> 3
atg ttt ccg aaa aac gcc tgg tat gtc gct tgc act ccg gat gaa atc
Met Phe Pro Lys Asn Ala Trp Tyr Val Ala Cys Thr Pro Asp Glu Ile
1 5 10 15

48 on the Error
Summary sheet.

* Note: → This error occurs
throughout the sequence
listing. Please review
and correct all instances.

F.Y.I.



Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

DATE: 05/23/2001

PATENT APPLICATION: US/09/750,986A

TIME: 12:37:53

Input Set : A:\B-99982.txt

Output Set: C:\CRF3\05232001\I750986A.raw

L:4934 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44

L:4937 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44

L:4955 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45